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AUTHOR Roter, Armonit
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ABSTRACT

The concept of consciousness played a central role in Vygotsky's research and theory. Unfortunately, with the advent of behaviorism, consciousness fell into disfavor. One of the major obstacles in studying consciousness is that there is no single acceptable definition of the term. Various researchers have dealt with five different aspects of consciousness that are relevant to the study of cognitive functioning: awareness, automaticity, volition, primacy and verbalizability. Vygotsky's theory offers three important insights which can make the study of consciousness viable. He suggests (1) that the problem of consciousness should be examined from a functional perspective, (2) that such study use the generic method, and (3) that consciousness should be unified as a whole. The five dimensions of consciousness that have been studied separately can be integrated into a single unified hierarchical model of consciousness. This model places consciousness at the highest level; at the next level are two cognitive components whose interrelationship changes with development; and at the level below this are the various cognitive functions such as memory, attention, perception, and imagery or thinking. (HOD)

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THE CONCEPT OF CONSCIOUSNESS - VYGOTSKY'S CONTRIBUTION

Armonit Roter

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The concept of consciousness - Vygotsky's contribution

Abstract

The concept of consciousness played a central role in Vygotsky's research and theory. Unfortunately, with the advent of behaviorism like many other mentalistic concepts, consciousness fell into disfavor. Today there is a hesitant resurgence of interest in consciousness.

One of the major obstacles in studying consciousness is that there is no single acceptable definition of consciousness. Various researchers have dealt with different aspects of consciousness. There are at least five dimensions of consciousness that are relevant to the study of cognitive functioning: awareness, automaticity, volition, primacy and verbalizability.

Each one of these dimensions is discussed in relation to current research and Vygotsky's work. Vygotsky's theory offers three important insights which can make the study of consciousness viable. These insights are discussed briefly and an integrative hierarchical model of consciousness is suggested.

The Concept of Consciousness - Vygotsky's contribution

Armonit Roter

It is not by accident that Vygotsky's first major contribution to Soviet psychology was devoted to the problem of consciousness [Vygotsky, 1925 (1979)]. As many writers have pointed out (Davydov & Radzikhovskii, 1985; Luria, 1976, 1978; Wertsch, 1985; Zinchenko, 1985) consciousness, for Vygotsky, was the major issue and he believed that the ultimate test of any psychological theory was whether it could deal with and contribute to our understanding of consciousness.

In 1925 Vygotsky stated emphatically: "Scientific psychology cannot ignore the facts of consciousness; it must make them materially accessible, translate them into an objective language of the objectively existing, and once and for all dispel and bury the fictions, phantasmagoria, etc. Otherwise, no sort of work is possible, neither teaching nor criticism nor research." (Vygotsky, 1925 (1979), p. 12)

In the next ten years, until his untimely death, consciousness continued to play an important role in the new psychology and new methodology that Vygotsky and his followers were creating. Vygotsky strongly objected to an atomistic view which attempts to reduce the complexities of actual psychological activity to isolated mental functions. Moreover, he believed that the interrelations between the various mental functions (such as memory, attention, perception and thinking) were not constant but changed with development. Consciousness,

according to Vygotsky, is a highly complex functional system in which the various mental functions, including affect and volition interrelate. Thus for Vygotsky consciousness served as the focal point for his integrative, nonatomistic view of mind. As Vygotsky stated in 1934:

Consciousness develops as a whole. With each new stage in its development, its internal structure, the system of connections among its parts, changes. Development is not the sum of changes occurring in each of the separate functions. Rather, the fate of each functional part of consciousness depends on changes in the whole. ... change in the functional structure of consciousness, is the main and central context of the whole process of mental development (p. 238-240, emphasis by Vygotsky)

Unfortunately, in the sixty years that followed, Vygotsky's view has gone, to a great extent, unnoticed. The issue of consciousness has usually been relegated to psychoanalytic theory and therapy or physiological research of various conscious states (sleep, arousal, hypnosis etc). In fact, in the heyday of behaviorism the term consciousness almost disappeared completely from psychological literature. Watson, one of the founders of behaviorism, was quite adamant in his rejection of consciousness as a subject for scientific psychology: "Behaviorism claims that 'consciousness' is neither a definable nor a usable concept. That it is merely another word for the 'soul' of more ancient times. The old psychology is thus dominated by a kind of subtle religious philosophy." (Watson, 1924, p.3). Therefore, it is not surprising that there are only a few scattered groups of researchers which deal directly with consciousness. Moreover, in each case, they have chosen to deal only with one or two components of consciousness without undertaking to integrate their work within the entire dynamic organization of consciousness.

One of the major difficulties in studying consciousness is that there is no single conventional definition of the concept of consciousness (see for example Klein, 1984). As Perry stated in 1904: "There is no philosophical term at once so popular and so devoid of standard meaning. How can a term mean anything when it is employed to connote anything and everything, including its own negation?" (p. 282). or as Dewey wrote in his book on psychology in 1893: "Consciousness can neither be defined nor described. We can define or describe anything only by the employment of consciousness. It is presupposed, accordingly in all definitions and all attempts to define it must move in a circle." (p. 2). This may be one of the reasons we find such a great disparity in the research of psychologists attempting to investigate the problem of consciousness or issues related to the unconscious.

Contemporary research has dealt with the problem of consciousness on at least five different dimensions: (1) awareness and self awareness; (2) automaticity as contrasted with control and/or as contrasted with effort; (3) volition; (4) primacy of conscious vs. the primacy of the unconscious; (5) verbalizability - tacit vs. explicit. For lack of time, I will only attempt a brief, cursory explanation and example of each of these dimensions. It should be noted that some of the researchers address more than one of these aspects but that as far as I know, at present, there isn't any attempt to integrate all of these aspects into one research program or theory.

1. Awareness - The most widely accepted synonym for consciousness is

awareness. Consequently as expected, the most popular experimental translation of the concept of consciousness is awareness. Moreover, many researchers who are interested in other aspects of consciousness include awareness as the criterion for determining whether the processes or structures they are dealing with are conscious or unconscious. As Marcel (1983) states: "The primary criterion for consciousness is phenomenal awareness ... consciousness is addressed in the sense of whether or not someone is aware of something." (author's emphasis, p. 240, 241). A variety of mental functions have been studied in relation to awareness. For example: perception (Marcel, 1978), memory (Eich, 1984; Jacoby & Witherspoon, 1982; Kellogg, 1980), verbal report (Nisbett & Wilson, 1978a), judgment (Nisbett & Wilson, 1978b).

One possible interpretation of the Freudian concept of unconscious is that it is also based on the notion of awareness. The contents of the unconscious are not inherently different from the contents we are conscious of. If the affectively threatening implications of an unconscious idea is removed or neutralized through cathexis we become aware of it, in other words, we are conscious of it. No additional reconstruction, reorganization or translation is necessary. The basic difference, therefore, between conscious and unconscious ideas is in our awareness of them. The mechanism that prevents our awareness is the censor or ego, in later formulations, which prevents our awareness of unpleasant contents. [Freud, 1915 (1959), 1920 (1967)].

A closely related issue in the study of consciousness is the

problem of self awareness. This issue has preoccupied philosophers often but has very rarely been dealt with in psychological research (see Hofstadter & Dennett, 1982, for some intriguing essays on this issue). There have been a number of attempts to incorporate this aspect of consciousness into an information processing or computational model (see Battis, 1978; Dennett, 1978 and Johnson-Laird, 1983).

2. Automaticity - The second popular dimension of consciousness is the degree of control. Consciousness implies, renders or allows (depending on one's theoretical inclination) control of the cognitive processing, while automatic processing is unconscious. The controlling role of consciousness represents the functional view of consciousness. For example Angell stated in 1907: "The functionalist's most intimate persuasion leads him to regard consciousness as primarily and intrinsically a control phenomenon." (p. 88). Most of the research on habit formation and skill learning suggest that beyond a certain level of learning, control becomes unnecessary or even disruptive and functioning becomes automatic and unconscious. Whenever the normal functioning is obstructed by some problem or change in the routine, one becomes conscious and assumes control of the processing*. This interpretation of the role of consciousness is very compatible with information processing models. According to information processing

* It is interesting to note that only recently has there begun to reappear any mention of the role of consciousness in skill learning. Psychological text, as recent as the late seventies, adroitly circumvent any mention of consciousness (for example - Wingfeld, 1979, chp. 6)

models there exist a limited capacity central processor (CP). One of the major functions of the CP is to control processing and at least part of the processing in the CP is conscious. In addition, there are automatic processes which occur outside of the CP and are unconscious. Once we have mastered a skill its processing does not require any control and it becomes automatic freeing the limited capacity CP for other processing. (see for example Posner & Warren, 1972).

A somewhat different interpretation of the relationship between consciousness and automaticity within an information processing model of a limited capacity CP is suggested by Hasher & Zacks (1979, 1984). According to their model conscious processes, those processes that go through the CP require effort. Unconscious processes are automatic and effortless and can occur simultaneously with conscious processes.

3. Volition - It is quite difficult to disentangle the dimension of volition from the notion of control and in many situations the two are really synonymous. Nevertheless, the motivational connotation implied in the term volition relates to another dimension of the concept of consciousness that is especially meaningful within the context Soviet psychology's activity theory (see for example Smirnov, 1973 or Smirnov & Zinchenko, 1969). Extensive Soviet research has been carried out on voluntary and involuntary memory processes. The results and models suggested by this research are closely linked to the developmental dimension of consciousness which will be discussed below. According to Vygotsky the voluntary nature of the activity of a given function is the

other side of its conscious awareness (Vygotsky, 1934 (1983), p.238).

Another issue which is closely related to the dimension of volition is the issue of will and free will which has been dealt with extensively in philosophy but, again, only rarely in psychology (see Klein, 1984).

4. Primacy of consciousness vs. primacy of unconsciousness - A number of theories and research programs have dealt with the developmental dimension of consciousness. Two different developmental relationships have been suggested: (1) unconscious processing or structures are prior to any conscious processing or structures; (2) conscious processing are developmentally prior to unconscious, automatic processing.

A number of psychological theories imply the first relationship i.e., unconscious processing and structures are developmentally prior to conscious structures and functioning. For example Piaget (1976, 1978), Fischer & Pipp (1984)*. Vygotsky also subscribes to this view. In 1934 he wrote: "It is a general law of development that conscious awareness and mastery characterize only higher stages of the development of a given function. It arises relatively late. It must be preceded by a stage in which conscious awareness is absent, a stage in which there is no volition in the application of a given form of conscious activity." (p. 240).

* The developmental relationship in their model is more complicated since unconscious processing appears whenever functioning is not at the optimal level that the subject is capable of according to the highest developmental level he has achieved.

Information processing theories are an example of the second view that processing and structures must first be conscious and only at a later stage do they become unconscious (e.g., Posner & Warren, 1972; Hasher & Zacks, 1979).

5. Verbalizability - The relationship between consciousness and language is, of course, one of the major themes of Vygotsky's work. It is expressed most clearly in *Thinking & Speech* [1934 (1983)]. Vygotsky proposed word meaning as a unit for analyzing consciousness. He believed that the word captured more of the essence of consciousness than any other unit of analysis. Vygotsky wrote:

At every step actual research shows that the word plays a central role in consciousness as a whole, not in its individual function. ... The word is the most direct manifestation of the historical nature of human consciousness.

Consciousness is reflected in the word like the sun is reflected in a droplet of water. The word is microcosm of consciousness, related to consciousness like a living cell is related to an organism, like an atom is related to the cosmos. The meaningful word is a microcosm of human consciousness. (p. 407)

Piaget, in his later research on the problem of consciousness, suggested that there was an important relationship between consciousness and signification: "It is our hypothesis that the most general characterization of consciousness states... is that they express significations and connect them by what, for lack of a better term, we shall term 'signifying implication'." (p. 220-221). Piaget's use of the term 'signification' should not be simply reduced to 'language'. Yet I think he was alluding to the dimension of verbalizability in the sense

that I mean it. Consciousness implies a level of understanding or processing which is potentially explicable. Therefore, when consciousness is achieved, a definite signifying relationship has been formed.

I believe Johnson-Laird (1983) is also alluding to this aspect of consciousness in his model. He distinguishes between a higher level operating system and a hierarchical organization of parallel processors. Consciousness is located at the high level operating system which is essentially serial and can only receive the end results of the processing of the parallel processors. Concerning the parallel processors, Johnson-Laird states: "Natural selection has ensured that they are necessarily unconscious." (p. 465). In other words there is an intrinsic, fundamental difference between that which we are conscious of, or can become conscious of and that which is unconscious. A distinction which is similar to the difference between tacit and explicit knowledge according to Polanyi (1958, 1966). As Johnson-Laird (1983) state:

According to the present computational hypothesis, however, any attempt to use introspection in order to become conscious of something that is normally unconscious is unlikely to succeed. Not only is the information inaccessible, but also an essentially parallel process has to be grasped by the serial deliberations of the operating system. (p. 468)

So where does all of this lead us? Are we up the creek with no paddle? Granted, consciousness is, as Vygotsky has insisted, an important part of human functioning and it has been studied from various perspectives. Nevertheless, consciousness remains as elusive and

ephemeral today, as it did to Watson sixty years ago. If only we could leave this area of mind to philosophers as Dennett (1978) says: "let them make fools of themselves trying to corral the quicksilver of 'phenomenology' into a reputable theory." (p. 147) But I think Vygotsky was right. We cannot and should not ignore the problem of consciousness. Moreover, Vygotsky's legacy offers a number of insights which can render the research enterprise viable. I will elaborate on only three points. There are others that have been raised elsewhere (e.g., Luria, 1978; Wertsch, 1985; Zinchenko, 1985.)

The first contribution Vygotsky makes is to suggest that we look at the problem of consciousness from a functional perspective. Vygotsky is alluding to a functional perspective in two senses. The first sense is what function does consciousness serve in humans and what is the functional relationship of consciousness to other mental functions. The second sense is to conceive of consciousness as an activity. As Luria (1978) states: "Consciousness is a complex form of organization of activity. ... Consciousness never was a primary 'inner state' of living matter." It is interesting to note that Piaget also believed that intelligence should be viewed as action and interiorized action that becomes operations.

Vygotsky's second methodological contribution, to the study of consciousness, is to advocate the genetic method. The fundamentals of this method have been discussed and summarized by Wertsch (1985 - Chp. 2 and summarized on p. 55-56). The genetic method is especially productive

for dealing with the problem of consciousness because this method permits examining some of the basic relationships between conscious and unconscious processing and structures. Moreover, I believe, that through the understanding of these relationships much of the mysteriousness of consciousness will disappear.

The third important insight offered by Vygotsky is that consciousness must be viewed as a unified whole. Vygotsky proposed a hierarchical model of mind in which the components at one level of description become a part of a more inclusive component at the next higher level (see Wertsch, 1985, for example). At the highest level of Vygotsky's hierarchy is consciousness itself. This model enabled Vygotsky to study the full complexity of psychological functioning at its highest level, as well as the changing interfunctional relationship between the mental functions at lower levels.

I suggest we adopt this method and integrate the five dimensions of consciousness that have been studied separately into a single unified hierarchical model of consciousness. At the highest level, as Vygotsky suggested, is consciousness. The next level is composed of at least two cognitive components* whose interrelationship changes with development. These two components are two fundamentally different types of cognitive processes. The first let us call the 'explicit' function and the second - the 'tacit' function. The level below this level includes, again as

* Vygotsky suggests that affect is a third component at this level.

Vygotsky has suggested the various cognitive functions such as memory, attention, perception, imagery or thinking.

The explicit functions are potentially conscious. They are voluntary, under control of the subject, require effort, serial and verbalizable and therefore the person can become aware of them. The tacit functions are inherently unconscious. They are involuntary, automatic (not under control and require little or no effort). In addition, we are unaware of the tacit processes because they are inherently inarticulate and parallel.

There is a dialectic relationship between the two types of functions. Initially the tacit function is dominant. Once the child or adult reaches a certain level of knowledge the explicit function becomes dominant. Ultimately both functions operate in unison. At this stage, we are aware* of, can control and articulate a small part of our functioning at any given moment. In addition, we can at will, with some effort, call forth additional functioning. Though even at this stage as Polanyi (1959) has pointed out, part of our functioning and knowledge remains tacit.

* Vygotsky distinguished between 'consciousness' and 'conscious awareness' (this distinction is not always preserved in the English translation, see Wertsch, 1985). Conscious awareness which is achieved only at the third stage of development is that stage at which, according to Vygotsky (1934), 'true concepts' are achieved. In learning everyday concepts we go through the development as described above with an initial dominance of tacit functioning. In the case of scientific concepts which are acquired at a later age, the interrelationship between the two types of functions is reversed. Initially the explicit function (through instruction) dominates.

BIBLIOGRAPHY

- Angell, J. R. (1907). The province of functional psychology. Psychological Review, 14, 61-69.
- Battista J. R. (1978). The science of consciousness. In K. S. Pope and J. L. Singer (Eds.), The stream of consciousness. New York: Plenum Press.
- Davydov, V. V. & Radzikhovskii, I. A. (1985). Vygotsky's theory and the activity-oriented approach in Psychology. In J. V. Wertsch (Ed.), Culture, communication, and cognition: Vygotskian perspective. New York: Cambridge University Press.
- Dennett, D. C. (1978). Toward a cognitive theory of consciousness. In Brainstorms. Cambridge, Mass.: Bradford Book, MIT Press.
- Eich, E. (1984). Memory for unattended events: Remembering with and without awareness. Memory & Cognition, 12(2), 105-111.
- Fischer, K. W. & Pipp, S. L. (1984) Development of the structures of unconscious thought. In K. S. Bowers and D. Meichenbaum (Eds.), The unconscious reconsidered. New York: Wiley & Sons.
- Freud, S. [1915 (1959)]. The unconscious. In Ernest Jones (Ed.), Sigmund Freud: Collected papers, Vol. 4. New York: Basic Books.
- Freud, S. [1920 (1967)]. A general introduction to psychoanalysis. New York: Washington Press.
- Hasher, L., & Zacks, R. T. (1979). Automatic and effortful processes in memory. Journal of Experimental Psychology: General, 108, 356-388.
- Hasher, L., & Zacks, R. T. (1984). Automatic processing of fundamental information The case of frequency of occurrence, American Psychologist, 39(12), 1372-1388.

- Hofstadter, D. & Dennett, D. C. (1981). The mind's I, Fantasies and reflections on self and soul. New York: Bantam Books.
- Jacoby, L. L. & Witherspoon, D. (1982). Remembering without awareness. Canadian Journal of Psychology, 36, 300-324.
- Johnson-Laird, P. N. (1983). Mental models. Cambridge, Mass: Harvard University Press.
- Kellog, R. T. (1980). Is conscious attention necessary for long-term storage? Journal of Experimental Psychology: Human Learning and memory, 6, 379-390.
- Klein, D. B. (1984) The concept of consciousness, a survey. Lincoln, Nebraska: University of Nebraska Press.
- Luria, A. R. (1976). Cognitive Development: Its cultural and social foundations. Cambridge, Mas.: Harvard University Press.
- Luria, A. R. (1978). The human brain and conscious activity. In G. E. Schwartz and D. Shapiro (Eds.), Consciousness and self-regulation Advances in research and theory, Vol. 2. New York: Wiley & Sons.
- Marcel, A. J. (1983). Conscious and unconscious perception: An approach to the relations between phenomenal experience and perceptual processes. Cognitive Psychology, 15, 238-300.
- Nisbett, R. E. & Wilson, T. D. (1977). The halo effect: evidence for unconscious alteration of judgments. Journal of Personality and Social Psychology, 35, 250-256.
- Nisbett, R. E. & Wilson, T. D. (1978) Telling more than we can know: verbal reports on mental processes. Psychological Review, 84, 231- 258.
- Piaget, J. (1976). The grasp of consciousness. Tr. Susan Wedgwood. Cambridge: Harvard University Press.
- Piaget, J. (1978). Success and understanding. Tr. Arnold J. Pomerans. London: Routledge & Kegan Paul.

- Polanyi, M. (1958). Personal knowledge, Toward a post-critical philosophy, Chicago, Ill.: University of Chicago Press.
- Polanyi, M. (1966). The tacit dimension. Garden City, N.Y.:Doubleday,
- Posner, W. I., & Warren, R. E. (1972). Traces, concepts and conscious construction. In A. W. Melton, & E. Martin (Eds.) Coding processes in human memory, Wash., D. C.: V. H. Winston.
- Vygotsky, L. S. [1925 (1979)]. Consciousness as a problem in the psychology of behavior. Soviet Psychology, 17, 3-35.
- Vygotsky, L. S. [1934 (1983)]. Thinking and Speech. Translated by Norris Minick. draft.
- Watson, J. B. (1913). Psychology as the behaviorist view it. Psychological Review, 20, 158-177.
- Wertsch, J. V. (1985). Vygotsky and the social formation of mind. Cambridge, Mass.: Harvard University Press.
- Wingfield, A. (1979). Human learning and memory: An introduction. New York: Harper & Row.
- Zinchenko, V. P. (1985). Vygotsky's ideas about units for the analysis of mind. In J. V. Wertsch (Ed.). Culture, communication, and cognition: Vygotskian perspective. New York: Cambridge University Press.